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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/675,212	09/30/2003	Roy E. Scheuerlein	023-0024	9946
22120	7590	07/27/2005	EXAMINER	
ZAGORIN O'BRIEN GRAHAM LLP			HO, HOAI V	
7600B N. CAPITAL OF TEXAS HWY.				
SUITE 350			ART UNIT	
AUSTIN, TX 78731			PAPER NUMBER	
			2827	

DATE MAILED: 07/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/675,212

Applicant(s)

SCHEUERLEIN ET AL.

Examiner

Hoai V. Ho

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 and 26-56 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 and 26-56 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3/21/05.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

1. This office acknowledges receipt of the following items from the Applicant:

Information Disclosure Statement (IDS) was considered.

**RCE CONTINUED EXAMINATION UNDER 37 CFR 1.114 AFTER
FINAL REJECTION**

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on **June 26, 2005** has been entered.

2. Claims 1-24 and 26-56 are presented for examination.

Claim 25 was canceled.

Claim Rejections - 35 USC 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 2, 8, 9, 13, 14, 18-24, 26-30, 32-33, 37-38, 40-43, 46, 50-53 and 56 are rejected under 35 U.S.C. 102(a) as being anticipated by La Rose U. S. Patent No. 6738286.

As per claims 1, 8, 13, 14, 18, 27-30, 37-38, 40, 41, 46, 50, 51 and 56, Figures 3, 4 and 6 of La Rosa are directed to a non-volatile memory cell array comprising within a first array block (COL0) a first plurality of X-lines (WL_m and WL_{m+1}) configured to be simultaneously selected in a read mode of operation (col. 6, lines 9-19), and each associated with a first Y-lines group (BL0 to BL4) numbering at least one Y-line.

As per claims 2, Figure 3 of La Rosa discloses wherein each of the first plurality of X-line is also associated with a second Y-line group (BL5 to BL 7) numbering at least one Y-line.

As per claim 9, Table 4 of La Rosa discloses wherein each of the first plurality of X-lines is configured to be individually selected in a write mode operation.

As per claims 19-24, 42 and 43, Figure 6 of La Rosa discloses further comprising a second in claims 19 and 42, or third in claims 20 and 43, plurality of X-lines (WL_m , WL_m , WL_{m+1} and WL_{m+1}) configured to be simultaneously selected in a read mode of operation (col. 6, lines 9-19), and each associated with the first Y-lines.

As per claims 32, 33, 52 and 53, Figure 6 of La Rosa discloses programming more than one cell associated with an X-line by simultaneously activating at least two Y-line groups (col. 8, lines 13-15).

5. Claims 1-5, 8, 13, 14, 18, 27-30, 32-33, 38, 40, 41, 46, 50-53 and 56 are rejected under 35 U.S.C. 102(b) as being anticipated by Zink et al. U. S. Patent No. 5946241 (PTO-892 mailed date 1004).

As per claims 1, 8, 13, 14, 18, 27-30, 38, 40, 41, 46, 50, 51 and 56, Figures 3 and 4 of Zink are directed to a non-volatile memory cell array comprising within a first array block (COL_0) a first plurality of X-lines (LM_j s) configured to be simultaneously selected in a read mode of operation, and each associated with a first Y-lines group (BL_0 to BL_7) numbering at least one Y-line.

As per claim 2, Figure 3 of La Zink discloses wherein each of the first plurality of X-line is also associated with a second Y-line group (BL_0 to BL_7) numbering at least one Y-line.

As per claims 3-5, Figure 3 and col. 2, line 58-62 and col. 3, line 58-67 of Zink disclose wherein the first (BL_0) and second Y-line (BL_0) groups are simultaneously selectable in a read

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mode and are respectively coupled to true and complement inputs of a sense amplifier circuit (fig. 4).

As per claims 32, 33, 52 and 53, Figure 3 of Zink discloses programming more than one cell associated with an X-line by simultaneously activating at least two Y-line groups.

Claim Rejections - 35 USC 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 10-12, 14-17, 26, 31, 34-36, 44, 45, 47-49, 54 and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over La Rose U. S. Patent No. 6738286 or Zink et al. U. S. Patent No. 5946241.

As per claims 10-12, 26, 31, 34-36, 44, 45, 54 and 55, La Rose and Zink disclose all the subject matter claimed except for the memory comprises different types of non-volatile memories such as passive element, anti-fuse, magnetoresistive or write-once memory cells, or content addressable memory array. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify La Rose and Zink' non-volatile EEPROM with the different types of non-volatile memories as the claimed invention since they have the same purpose and advantages to retain recorded information even when the power to the memory is turned off and since it has been held that constructing a formerly memory structure in various elements involves only routine skill in the art (see Zink col. 6, lines 24-32).

As per claims 14-17 and 47-49, La Rose and Zink disclose all the subject matter claimed except for the memory comprises different dimensional memory array and disposal one or more layers of the memory. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify La Rose and Zink' memory array with the different dimensional memory array and disposal one or more layers of the memory array as the claimed invention, since it has been held that constructing a formerly memory array in various dimensions and layers involves only routine skill in the art (see Zink col. 6, lines 24-32).

8. Claims 6, 7 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over La Rose U. S. Patent No. 6738286 or Zink et al. U. S. Patent No. 5946241 in view of Yero U. S. Patent No. 5986937.

La Rose and Zink disclose all the subject matter claimed except for comprising further a reference signal operable coupled to either the true or complement input of the sense amplifier. However, this limitation was well known in the art at the time the invention was made. For example, Figure 3 of Yero discloses a reference signal (current source, SC2) operable coupled to either the true or complement input of the sense amplifier (AD) for the purpose to limit the precharging of the bit lines. Therefore, it would have been obvious to a person of ordinary skill in the art at the time invention was made to add the reference signal or the current source to La Rose and Zink's sense amplifier as taught by Yero in order to reduce the borderline value of the precharging potential of the bit lines (col. 1, line 5-10 and col. 2, lines 61-64).

9. The prior art made of record and not relied upon is considered pertinent to applicants' disclosure. Walker et al. (USP 6888750) and Scheuerlein (USP 6545898) disclose different types of non-volatile memories.

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10. When responding to the office action, Applicants are advised to provide the examiner with the line numbers and page numbers in the application and/or references cited to assist the examiner to locate the appropriate paragraphs.

11. A shortened statutory period for response to this action is set to expire 3 (three) months and 0 (zero) day from the date of this letter. Failure to respond within the period for response will cause the application to become abandoned (see MPEP 710.02 (b)).

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoai V. Ho whose telephone number is (571) 272-1777. The examiner can normally be reached on 7:00 AM -- 5:30 PM from Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on (571) 272-1787. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



hvh
July 22, 2005



Hoai V. Ho
Primary Examiner
Art Unit 2827